

What is claimed is:

- 1.A triangle automatic matching method provides a unique and precise matching method that can be used to judge the similarity of two sets of planar points, comprising: Generating a plurality of triangular elements and matching-related flag matrices upon a coordinate; Determining a triangle weighting value combined with triangle coarse matching depending on said triangular elements and said flag matrices; Converting said coordinate depending on said triangle weighting value; and Calculate said similarity depending on said triangle weighting value.
- 2.The method as in claim 1, wherein said first step further includes generating a list of all the possible side of a triangle based on the vertices of each triangle and 12 geometrical parameters stored in two matrices.
- 3.The method as in claim 1, wherein said first step further includes generating a matching related flag matrix under a plurality conditions, and setting said flag matrix.
- 4.The method as in claim 1, wherein said triangle weighting value can to find the tendency of direction about the triangular elements and also to determine the shift and rotation parameters.
- 5.The method as in claim 1, wherein before said third step, flag matrix must first be verified, then going on with triangle coarse matching.
- 6.The method as in claim 1, wherein said triangle coarse matching is to filter out the impossible mated points of said triangle elements according to the geometrical parameter thereof in a input set and a reference set, then setting a plurality of predetermined conditions to determine whether said triangle element from said input set and said triangle element from said reference set are definitely mated or not. If said geometric parameters do not satisfy said conditions, then discarding said elements, if so, said triangle element can be defined as an average of the difference between said inputs set and said reference sets angle.
- 7.The method as in claim 6, wherein said fourth step further comprises converting said points to the new coordinate after determining the four parameters of said geometric parameters.
- 8.The method as in claim 1, wherein said similarity is determined by the combination of said weighting value and said points.
- 9.The method as in claim 1, wherein said similarity is simply an algebra function.